

REMARKS

Applicant has reconsidered the cited prior art references in view of the Examiner's further explanation of the rejections contained in the Advisory Action, and has amended independent Claims 1 and 17 to clarify their patentability over the cited references. Accordingly, Applicant requests reconsideration and allowance of the claims in view of the above-amendments and the following remarks.

Status of the Claims:

Claims 1-10, 13-14, 16, and 20 stand rejected under 35 U.S.C. 103(a) as unpatentable over U.S. Patent No. 5,363,089 to Goldenberg ("Goldenberg") in view of U.S. Patent No. 6,990,355 to Ueyama et al. ("Ueyama"). Claims 11-12 stand rejected under 35 U.S.C. 103(a) as unpatentable over Goldenberg in view of Ueyama and further in view of U.S. Patent No. 5,966,777 to Jantschek ("Jantschek"). Claims 15, 17, 18, and 21 stand rejected under 35 U.S.C. 103(a) as unpatentable over Goldenberg in view of Ueyama and further in view of U.S. Pat. No. 6,466,202 to Suso et al. ("Suso").

Independent Claim 1:

The Examiner has explained that when the two parts of Goldenberg's device are rotated completely in one direction (360° rotational angle), the flexible circuit 215 is connected to an interior side of a second part and to an exterior side of the first part. In contrast, when the two parts of Goldenberg's device are rotated completely in an opposite direction (0° rotational angle), then the flexible circuit 215 is oppositely connected to the exterior side of the second part and to the interior side of the first part. Accordingly, although Goldenberg discloses that a single set of flexible connectors is connected between the two parts, that single connector is interpreted as being oppositely connected when the two parts are rotated completely in two opposite directions.

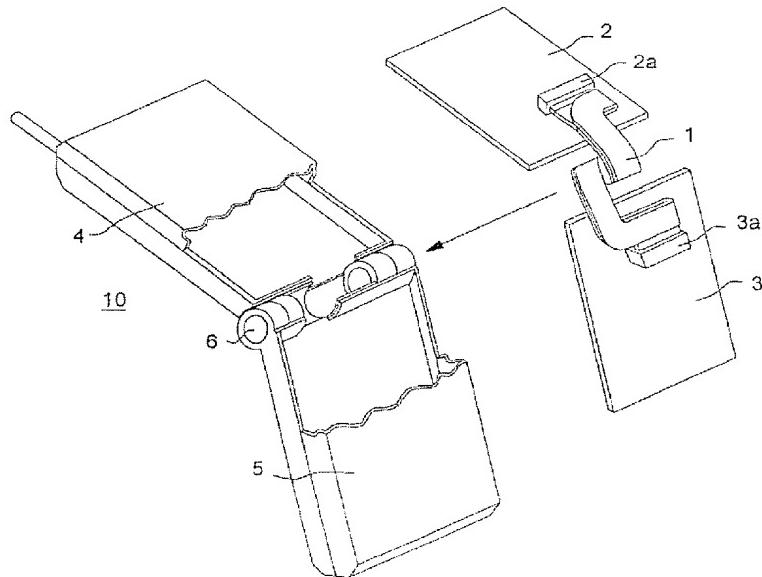
Claim 1 has therefore been amended to clarify that while the first and second parts have a defined rotational angle therebetween (i.e., without moving the first and second parts relative to each other): 1) the a first set of flexible electrical conductors are connected to the ***first part at the exterior side*** adjacent the bottom side thereof and are connected to the ***second***

part at the interior side adjacent the bottom side thereof, and 2) a second set of flexible electrical conductors are connected to the **second part at the exterior side** adjacent the bottom side thereof and are connected to the **first part at the interior side** adjacent the bottom side thereof.

In sharp contrast, while the two parts of Goldenberg have a defined rotational angle therebetween, its single flexible circuit is connected to the interior of one of the parts and to the exterior of the other part.

Ueyama does not supply the teachings that are missing from Goldenberg. Referencing the exploded assembly shown in Ueyama's FIG. 6 (shown below) and the integrated assembly shown in FIG. 7, Ueyama describes and shows that "a central portion of the flexible printed circuit board (1) is bent one turn so as to form a helical shape" within a hinge portion (6). (Ueyama, col. 4, line 62 - col. 5, line 5).

Ueyama FIG. 6



With continued reference to FIG. 6 above, Ueyama shows that the flexible printed circuit board (1) is attached at one end to a first connector (2a) on a first circuit board (2) and at the other end to a second connector (3a) on a second circuit board (3). Ueyama shows in FIG. 6 that the connectors 2a and 3a, which are attached to opposite ends of the flexible printed circuit board (1), are attached to the same exterior side of the circuit boards 2 and 3 respectively within the first and second body casings 4 and 5. Nowhere does Ueyama

disclose that one end of the flexible printed circuit board (1) is connected to the *exterior side* adjacent the bottom side of the first circuit board (2) (within the first body casing 4) and that the other end of the flexible printed circuit board (1) is connected to the *interior side* adjacent the bottom side of the second circuit board (3) (within the second body casing 5).

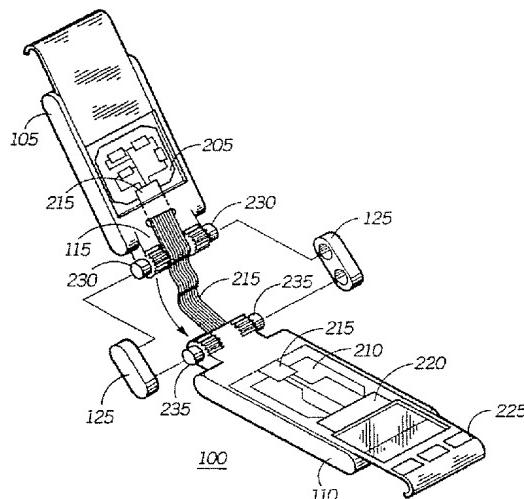
Moreover, Ueyama discloses only a *single* flexible printed circuit board (1) that interconnects the first and second circuit boards (2 and 3). Ueyama is devoid of any description of the first and second circuit boards (2 and 3) being interconnected by both a first set of flexible electrical conductors and a second set of flexible electrical conductors. For the sake of argument, however, even if one of skill in the art were to apply the combined teachings of Goldenberg and Ueyama to connect first and second set of flexible electrical connectors, that person would still not be taught to connect the first and second sets of flexible electrical conductors to one of the first/second circuit boards (2/3) *at the exterior side adjacent the bottom side thereof* and to the other one of the first/second circuit boards (2/3) *at the interior side adjacent the bottom side thereof*.

The Examiner has suggested beginning of page 4 of the Office Action that "a mere duplication of parts [the first and second sets of flexible electrical conductors] has no patentable significance unless a new and unexpected result is produced. Therefore, it would have been obvious to incorporate a duplicate set of flexible electrical conductors as taught by Ueyama into the teachings of Goldenberg." However, the claimed invention does not rest on duplication of sets of electrical conductors, but instead on the non-duplication of the way in which the first and second sets of flexible electrical conductors are connected between the first and second parts of the portable electronic device. As explained on page 10 of the application specification, the inventors of the present application have determined that a new and unexpected result is provided by *oppositely* connecting the first and second sets of flexible electrical conductors to *opposite* interior and exterior surfaces of the first and second parts relative to each other, the conductors thereby exert forces on the first and second parts that guide the rotational movement of the first and second parts about the hinge, and which may remove any need for use of a gear in order to obtain stable rotational movement of the first and second parts about the hinge.

To emphasize this patentable aspect of the present invention, Claim 1 has been further amended to recite that *the first and second sets of flexible electrical conductors are spaced apart on opposite sides of the hinge to exert forces on the first and second parts that guide the rotational movement of the first and second parts about the hinge.*

In sharp contrast to this claimed aspect, Goldenberg shows in Figure 2 (below) that its single flexible conductor 215 extends through the middle of the hinge 235.

Goldenberg's Figure 2



In a similar manner to Goldenberg, Ueyama shows in Figure 6 (above) that its single flexible conductor 1 extends through the middle of the hinge 6.

Consequently, neither Goldenberg nor Ueyama disclose or suggest that first and second sets of flexible electrical conductors are spaced apart on opposite sides of the hinge to exert forces on the first and second parts that guide the rotational movement of the first and second parts about the hinge.

For at least these reasons, Applicant submits that amended Claim 1 is patentable over Goldenberg in view of Ueyama. Reconsideration and allowance of Claim 1 is therefore respectfully requested.

Independent Claim 17:

Claim 17 has been amended to include the recitations described above from amended Claim 1 as patentably distinguishing the combination of Goldenberg and Ueyama. Therefore,

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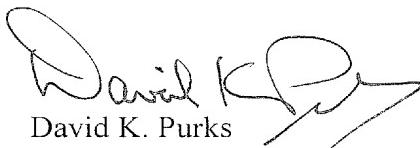
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Applicants submit that amended Claim 17 is patentable over Goldenberg in view of Ueyama and Suso for at least the reasons explained above for amended Claim 1.

CONCLUSION

In view of the above remarks, Applicant respectfully requests withdrawal of all rejections and the allowance of all claims in due course. If, in the opinion of the Examiner, a telephonic conference would expedite the examination of this matter, the Examiner is encouraged to contact the undersigned by telephone at (919) 854-1400.

Respectfully submitted,



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CERTIFICATION OF TRANSMISSION

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Susan E. Freedman
Date of Signature: August 13, 2008